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EXAMINER

DUONG, OANH L

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/619,178
Filing Date: July 19, 2000
Appellant(s): BOULIA, DONALD J.

Marcia L. Doubet
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on July 19, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

This appeal involves claims 1-31.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 8, 10-13, 17, 19-22, 26, 28-29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson et al (Erickson) (US 6,412,009 B1) in view of Inala et al (Inala) (US 6,442,590 B1).

Regarding claim 1, Erickson teaches a computer program product for sending Transmission Control Protocol (TCP) messages through Hyper Text Transfer Protocol (HTTP) systems, (e.g., see fig. 4 and abstract), the computer program product embodied on one or more computer-readable media, comprising:

computer-readable program code means for establishing a send channel from a first component on a client side of a network connection, through one or more HTTP-based systems, to a second component on a remote side of the network connection

(col. 3 lines 7-10 and lines 20-23, Erickson discloses a connection (channel) is established for sending the chunked client message from the web client to the web server);

computer-readable program code means for establishing a receive channel from the first component, through one or more HTTP-based systems, to the second component (col. 3 lines 7-10 and 15-16, Erickson discloses a connection is established for receiving the chunked host message at the web client from the web server);

computer-readable program code means for establishing a first TCP/bi-directional protocol connection from a client on the client side to the first component (i.e., a second layer 104, Fig. 2 col. 5 lines 19-26);

computer-readable program code means for establishing a second TCP/bidirectional connection from the second component to a target server on the remote side (i.e., a second layer 104, Fig. 2 col. 5 lines 19-26);

computer-readable program code means for transmitting client-initiated requests from the client to the target server by packing the client-initiated TCP/bidirectional protocol requests into HTTP messages which are transmitted on the send channel (i.e., inserts the client message into a chunked client message and forwards the chunked client message to web server over the connection, col. 3 lines 7-10 and lines 21-23);
and

computer-readable program code means for transmitting server-initiated TCP/bi-directional protocol requests from the target server to the client by packing the server-initiated TCP/bi-directional protocol requests into HTTP messages which are

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transmitted on the receive channel (col. 3 lines 7-10 and 16, Erickson discloses web server inserts host messages into a chunked host message and forwards the chunked host messages to the web client over the connection).

Erickson does not explicitly teach the receive channel is distinct from the send channel.

Inala teaches Internet service system wherein the web sites control information streaming to clients (see abstract). Inala teaches the receive channel is distinct from the send channel (col. 8 lines 30-32, Inala discloses one connection is for sending and one is for receiving data).

It would have been obvious to one having ordinary skill in the art at the time the invention incorporate the receive channel is distinct from the send channel of Inala in the process of establishing connection(s) between web client and web server in Erickson. One would be motivated to do so to provide the web server the capability to determine at any point in time exactly which clients may be viewing any one web document and provide such information to member clients (Inala, col. 8 lines 54-56).

Regarding claim 2, Erickson teaches the computer program product according to claim 1 wherein the computer-readable program code means for transmitting client-initiated TCP requests further comprise:

computer-readable program code means for receiving a TCP/bidirectional protocol request from the client at the first component on the first TCP/bidirectional

protocol connection (i.e., web client messages are transmitted from the application to a tunneling mechanism, col. 3 lines 18-20 and col. 3 line 66-col. 4 line 9);

computer-readable program code means for packaging the received client-initiated TCP/bidirectional protocol request in an HTTP POST request message (i.e., the data message is embedded into a chunked data message, col. 2 lines 41-47 and col. 8 lines 5-8);

computer-readable program code means for sending the request to the second component (i.e., forwards the chunked client message to the web server, col. 3 lines 22-23);

computer-readable program code means for receiving the sent request message at the second component (i.e., upon receiving any chunked data message at the web server, col. 10 lines 6-13);

computer-readable program code means for extracting the client TCP/bi-directional protocol request from the received request message (i.e., unchunked the chunked message, col. 7 lines 45-53); and

computer-readable program code means for forwarding the extracted client TCP/bi-directional protocol request to the target server on the second TCP/bi-directional protocol connection (col. 7 lines 45-53, Erickson discloses forwards to the host system only the original (Telnet) message).

Regarding claim 3, Erickson teaches computer program product according claim 2, wherein the computer-readable program code means for acknowledging the HTTP

POST request by sending an HTTP POST response from the second component to the first component (i.e., generates a standard HTTP/1.1 response with transfer-encoding specified as chunked which is sent back to the web client, col. 7 lines 11-13).

Regarding claim 4, Erickson teaches the computer program product according to claim 3, wherein the computer-readable code means for establishing the send channel operates in response to the computer-readable program code means or receiving the client-initiated TCP/bi-directional protocol request, and wherein the computer-readable program code means for transmitting client-initiated TCP/bi-directional protocol requests further comprising:

computer-readable program code means for receiving the HTTP POST response at the first component (col. 7 lines 10-13, Erickson discloses HTTP post response is sent back to the web client); and

computer-readable program code means for closing the send channel, responsive to operation of the computer-readable code means for receiving the response (i.e., after the web server send a response to the browser, the connection is closed, col. 2 lines 11-15).

Regarding claim 8, the computer program product according to claim 2, wherein Multi-Purpose Internet Extensions (MIME) type of HTTP Post request message is set to "binary/tcp" (i.e., binary data, col. 8 line 52).

Claim 10 represents a system that is parallel to claim 1. Claim 10 does not teach or define any new limitation above claim 1 and therefore is rejected for similar reasons.

Regarding claim 11, Erickson teaches the system according to claim 10, wherein the means for transmitting client-initiated requests further comprises:

means for receiving a TCP/bi-directional protocol request from the client at the first component on the first TCP/bi-directional protocol connection (i.e., messages are transmitted from application to a tunneling mechanism, col. 3 lines 18-20);

means for packaging the received client-initiated TCP/bidirectional protocol request in an HTTP POST request message (i.e., inserts the client message into a chunked client message, col. 3 lines 21-22);

means for sending the request to the second component on the network connection (i.e., forwards the chunked client message to the web server, col. 3 lines 22-23);

means for receiving the sent request message at the second component (i.e., upon receiving any chunked data message at the web server, col. 10 lines 7-18);

means for extracting the client TCP/bidirectional protocol request from the received request message (i.e., unchunks the Telnet message, col. 7 line 50); and

means for forwarding the extracted client TCP/bi-directional protocol request to the target server on the second TCP connection (i.e., forwards to the host system only the Tel net message, see col. 7 lines 51-53).

Regarding claim 12, Erickson teaches the system according to claim 11, wherein the means for transmitting client-initiated TCP/bi-directional protocol requests further comprises means for acknowledging the HTTP POST request by sending an HTTP POST response from the second component to the first component on the network connection (col. 7 lines 7-13, Erickson discloses a response to the post request is sent back to the web client).

Regarding claim 13, Erickson teaches the system according to claim 12, wherein the means for establishing the send channel operates in response to the means for receiving the client-initiated TCP/bi-directional protocol request, and where the means for transmitting client-initiated TCP/bi-directional protocol requests further comprising:

means for receiving the HTTP POST response at the first component (col. 7 lines 10-13, Erickson discloses HTTP post response is sent back to the web client); and

means for closing the send channel, responsive to operation of the computer-readable code means for receiving the HTTP POST response (i.e., after the web server send a response to the browser, the connection is closed, col. 2 lines 11-15).

Claim 17 does not teach or define any new limitation above claim 8 and therefore is rejected for similar reason.

Claim 19 represents a method that is parallel to claim 1. Claim 19 does not teach or define any new limitation above claim 1 and therefore is rejected for similar reasons.

Claim 20 does not teach or define any limitation above claim 2 and therefore is rejected for similar reasons.

Claim 21 does not teach or define any limitation above claim 3 and therefore is rejected for similar reasons.

Claim 22 does not teach or define any limitation above claim 4 and therefore is rejected for similar reasons.

Claim 26 does not teach or define any new limitation above claim 8 and therefore is rejected for similar reason.

Claim 28 represents a method that is parallel to claim 1. Claim 28 does not teach or define any new limitation above claim 1 and therefore is rejected for similar reasons.

Claim 29 does not teach or define any limitation above claim 2 and therefore is rejected for similar reasons.

Regarding claim 31, Erickson teaches a system for providing bi-directional message over uni-directional protocol systems (Fig. 3), comprising:

a send channel established from a first component on a client side of a network connection, through at least one uni-directional protocol-based system, to second components on remote side of the network connection (col. 3 lines 7-10 and lines 20-23 , Erickson discloses a connection (channel) is established for sending the chunked client message from the web client to the web server);

a receive channel established from the first component, through the at least one uni-directional protocol-based system, to the second component (col. 3 lines 7-10 and 15-16, Erickson discloses a connection is established for receiving the chunked host message at the web client from the web server);

a first bi-directional protocol connection established between a client on the client side and the first component (i.e., a second layer 104, Fig. 2 col. 5 lines 19-26); and

a second bi-directional protocol connection established between the second component and a server on the remote side (i.e., a second layer 104, Fig. 2 col. 5 lines 19-26);

Wherein the first component (i.e., HTTP tunnel mechanism 128) packages client-initiated bi-directional protocol requests, which are sent from the client on the first bi-directional protocol connection and received at the first component (i.e., HTTP tunnel mechanism 128 creates a chunked Telnet message, col. 7 lines 45-50), into uni-directional protocol messages and forwards the packaged client-initiated protocol requests to the second component using the second channel (i.e., forwards the chunked client message to the web server, col. 7 lines 45-50) and upon receipt of the forwarded client-initiated requests, the second component extracts the client-initiated bi-

directional protocol requests and forwards the extracted client-initiated bi-directional protocol request to the server on the second bi-direction protocol connection (i.e., unchunks the chunked Telnet message and forwards to the host system only the Telnet message, col. 7 lines 51-53), thereby providing client-to-server messaging through the at least one uni-directional protocol-based system (i.e., Telnet data tunneled over HTTP, col. 7 line 31); and

Wherein the second component (i.e., extension 132) packages server-initiated bi-directional protocol request (i.e., Telnet message), which are sent from the server on the second bi-directional protocol connection and received at the second component, into uni-directional protocol messages and forwards the packaged server initiated protocol requests to the first component using the receive channel (i.e., encapsulates the Telnet message into a chunked Telnet message, col. 7 lines 35-39) and upon receipt of the forwarded server-initiated requests, the first component extracts the server-initiated bi-directional protocol requests and forwards the extracted server-initiated bi-directional protocol requests to the client on the first bi-direction protocol connection (i.e., parses the chunked Telnet message and provides the emulator 134 the original Telnet message, col. 7 lines 42-45), thereby providing server-to-client message through the at least one uni-directional protocol-based system (i.e., Telnet data tunneled over HTTP, col. 7 lines 31).

Erickson does not explicitly teach the receive channel is distinct from the send channel.

Inala teaches Internet service system wherein the web sites control information streaming to clients (see abstract). Inala teaches the receive channel is distinct from the send channel (col. 8 lines 30-32, Inala discloses one connection is for sending and one is for receiving data).

It would have been obvious to one having ordinary skill in the art at the time the invention incorporate the receive channel is distinct from the send channel of Inala in the process of establishing connection(s) between web client and web server in Erickson. One would be motivated to do so to provide the web server the capability to determine at any point in time exactly which clients may be viewing any one web document and provide such information to member clients (Inala, col. 8 lines 54-56).

2. Claims 5, 9, 14, 18, 23, 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson in view of Inala, and further in view of Fielding et al (RCF 2068).

Regarding claim 5, Erickson teaches the computer program product according to claim 1, wherein the computer-readable program code means for transmitting server-initiated TCP/bi-directional protocol request further comprising:

means for sending a message from the first component to the second component (i.e., transmitting the chunked data message between a web client and a web server, col.10 lines 4-5);

means for receiving the message at the second component (i.e., upon receiving any chunked data message at the web server, col. 10 lines 6-7);

means for receiving a server-initiated TCP request from the target server at the second component on the second TCP/bi-directional protocol connection (i.e., messages are transmitted from the host system to the web server extension, col. 3 lines 12-14);

means for packaging the received server-initiated TCP request in a response message (col. 3 lines 12-15, Erickson discloses the messages are inserted into a chunked host message at the web server);

means for sending the message from the second component to the first component on the network connection (i.e., forwards the chunked host message to the web client, col. 3 lines 15-16);

means for receiving the message at the first component and extracting the server-initiated request from the message (i.e., the web client parses the chunked host message, col. 7 lines 16-17); and

means for forwarding the extracted server-initiated TCP/bi-directional protocol request to the client on the first TCP/bi-directional protocol connection (i.e., delivers the host message to an application, col. 3 line 17-18).

Erickson-Inala does not explicitly teach the request is HTTP GET request.

However, Fielding teaches HTTP/1.1 (see abstract). Fielding teaches HTTP GET request (e.g., see page 43 section 9.3).

It would have been obvious to one of ordinary skill in the art at the time the invention to incorporate HTTP GET request of Fielding in the process of exchanging information between client and web server in Erickson-Inala. One would be motivated to

do so to allow only information identified by the request to be retrieved, thereby reducing unnecessary network usage (Fielding, page 43, section 9.3).

Regarding claim 9, the computer program product according to claim 5, wherein Multi-Purpose Internet Extensions (MIME) type of HTTP Post request message is set to "binary/tcp" (i.e., binary data, col. 8 line 52).

Claim 14 does not teach or define any new limitation above claim 5 and therefore is rejected for similar reasons.

Claim 18 does not teach or define any new limitation above claim 9 and therefore is rejected for similar reason.

Claim 23 does not teach or define any new limitation above claim 5 and therefore is rejected for similar reasons.

Claim 27 does not teach or define any new limitation above claim 9 and therefore is rejected for similar reason.

Claim 30 does not teach or define any new limitation above claim 5 and therefore is rejected for similar reasons.

Allowable Subject Matter

3. Claims 6-7, 15-16 and 24-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of prior art of record clearly teaches or defines computer-readable program code means for performing a read operation on the second TCP connection, response to operation of the computer-readable program code means for receiving the sent HTTP GET request message and prior to operation of the computer-readable program code means for receiving the server-initiated TCP request, and computer-readable program code means for using the received server-initiated TCP request as a result of the read operation, thereby triggering operation of the computer-readable program code means for packaging the received server-initiated TCP request in the HTTP response message. Further, none of prior art of record clearly teaches or defines computer-readable program code means for preparing to receive another server-initiated TCP request by triggering operation of the computer-readable program code means for sending the HTTP GET request message from the first component to the second component, responsive to operation of the computer-readable program code means for receiving the send HTTP GET response message at the first component.

(10) Response to Argument

Appellant argued in substances that

(A) Erickson does not explicitly teach the receive channel is distinct from the send channel.

As to point (A), in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(B) Prior Art fails to teach the fifth and sixth limitations of independent claims 1, 10, 19, 28 and 31.

As to point (B), examiner have given broadest reasonable interpretation of "send channel" is a channel/connection that can be used to transmit messages from the client to server. Erickson teaches the tunneling mechanism inserts the client message into a chunked client message and forwards/sends the chunked client message to the web server over the connection (channel) (col. 3 lines 20-23). Therefore, Erickson does teach the fifth limitation of claims 1, 10, 19, 28 and 31.

Examiner have given broadest reasonable interpretation of "the receive channel" is a channel/connection that can be used to transmit messages from server to client. Erickson teaches a plurality of host messages are transmitted from the host system (target server) to the web server extension and inserted into a chunked host message at the web server, then the web server forwards/sends the chunked host message to the

web client over the connection/channel (col. 3 lines 12-23). Therefore, Erickson does teach the sixth limitation of claims 1, 10, 19, 28 and 31

(C) Appellant submits that there is no suggestion or motivation to combine Erickson and Inala's teachings.

As to point (C), In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both Erickson and Inala direct to a common search **Class/Subclass 709/228**. Erickson teaches exchange messages between client and server over HTTP (col. 7 lines 30-53). Inala teaches two HTTP connections/channels are opened from client to server for sending and receiving data (col. 8 lines 30-35). It would have been obvious to one having ordinary skill in the art at the time the invention incorporate two HTTP connections/channels for receiving and transmitting data of Inala in the process of exchanging data over HTTP between client and server in Erickson. One would be motivated to do so to provide the server the capability to determine at any point in time exactly which clients may be viewing any one web document and provide such information to member clients (Inala, col. 8 lines 54-56).

(D) Appellant submits that one of skill in the art would fail to locate Inala's teachings absent use of hindsight reconstruction.

As to point (D), In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(F) Prior art fails to teach closing the send channel, responsive to receiving an HTTP post response.

As to point (F), Erickson does teach closing the send channel, responsive to receiving an HTTP post response (col. 7 lines 10-13, Erickson discloses HTTP post response is sent back to the web client; further, Erickson discloses after the web server send a response to the browser, the connection is closed, col. 2 lines 11-15).

(G) Prior art does not teach claim 6, 15 and 24 as claimed.

As to point (G), appellant's reply has overcome the rejection of dependent claims 6, 15 and 24.

(H) Prior art does not teach claim 7, 16 and 25 as claimed.

As to point (H), appellant 's reply has overcome the rejections of dependent claims 7, 16 and 25.

(I) Appellant argued that there is no motivation to combine Erickson-Inala, in view of Fielding.

As to point (I), In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Erickson teaches the system and method for providing tunnel HTTP between a client and a web server wherein the format data exchanged between client and web server is as specified in the HTTP/1.1 specification. Fielding teaches HTTP/1.1 specification. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate request and response complying with the standard HTTP/1.1 specification (for example, HTTP GET request and HTTP GET response) of Fielding in the process of exchanging information between client and web server in Erickson-Inala for the reasons Erickson expressly taught (col. 8 lines 42-43)

Claim 5 recites "sending HTTP GET request message from the first component to the second component...receiving the sent HTTP GET request message at the second component" (the first component is on the client site and the second component is on a remote site as defined in claim 1). Examiner wants to emphasize that HTTP GET request is generated/sent by/from client as defined in the claim language.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

O.D

Zarni Maung

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